Fundamentals of Information Technology in the Global Marketplace

An Honors Thesis (HONRS 499)

By

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Abstract

Fundamentals of Information Technology in the Global Marketplace, as a project, included not only the development of a course curriculum, but also the presentation of that curriculum to a class of primarily Honors students. Development of the curriculum focused upon the use of information technologies primarily developed in the late 20th Century as they are used as a cultural thread in a global context, including: telephony devices, radio, television, personal computing, and the Internet. Research of these technologies encompassed their origin, timeline, historical and current usage, and the perception of them in a global culture. This research was presented by the authors in the form of a one credit hour Honors colloquium, Management 495, Section 1, Spring 2003. The class consisted of a group of ten students currently studying a variety of disciplines. Furthermore, the authors' views, thoughts, and reactions within the project were chronicled in a set of three discussions captured both in transcript and videographic form.

The goal of this project was to expose the University community to the use of information technology outside the United States, the cultural impacts of these technologies, and their importance to the global economy.

Acknowledgements

The authors would like thank Dr. Tom Harris for his gracious gift of time and expertise as thesis advisor. His encouragement and guidance proved invaluable in keeping the authors true to their goals and ideals.

The authors would also like to thank Dr. James Ruebel, Dean of the Honors College, for allowing them to pursue the project to its appropriate end. His ideas and inspirations gave the authors the means to show the making of "the bowl".

Furthermore, the authors would like to show their appreciation to Mr. Phil Repp, Dr. Scott Olson, Dr. Lynne Richardson, and Mrs. Kathleen Keil for meeting with them during the early phases of this project. Their ideas helped the authors to clarify their own intentions and put the project into the appropriate scope.

Finally, the authors would like to express their gratitude to the students of Management 495, Section 1, in the Spring of 2003. As instructors of that class, the authors want to commend those students for their hard work and ability to keep focused in a class taught by their peers. Their presence made the project complete and gave the authors tangible evidence of the effect of this project.

Alex B Chalmers would like to thank:
Dr. Tom Harris, for everything. Without your humor, wit, and wisdom this project would have never been possible. My students, without whom this project would have been incomplete. Dr. Christine Shea, who taught me as much about myself as literature and giving me that extra nudge to want to teach. Todd Meister, Dave Powell, Loren Malm, Matt Stum, and Fred Nay for being the greatest people I've ever had privilege to work. My family: Chuck, Patty, Brittany, and Christin for always being there even when I don't make sense. Finally, Josh Mahler, my friend. This journey could have only started and been complete with you.

Josh Mahler would like to thank:
My parents, Michael and Cynthia Mahler for their undying love and support throughout my entire life and academic career. I would also like to thank my best friend in the entire world, Ms. Carrie Louagie for continuing to put up with the daily meetings and the many late nights I spent working on this project. Most of all, I would like to thank my partner, and good friend throughout this entire process, Alex B Chalmers for without you, I would have never accomplished what I have over this past year and a half.

Authors' Statement

This project is the culmination of eighteen months of research and investigation into the many fields of information technology. It was undertaken to demonstrate the importance of information technologies as they relate to the world outside of Muncie, Indiana. These technologies have had monumental effects to the culture of the United States and of the world; however, these effects are not the same for all cultures. Common circumstances exist that unite even the most disparate effects of these technologies. The ultimate goal is not to show the technologies at face value, it is to provide an understanding of these circumstances, and their possible outcomes, so that as a technology is viewed cross-culturally, one may understand how and why that technology is implemented in a given environment.

The authors' implementation of this project was motivated by a desire to impart knowledge in the field of information technology and to discover how this field has a global impact. While the authors have no direct experience in the cultural impact of information technology in a global context, they felt compelled to educate themselves and then convey their findings to a group of their peers. Although this element of the project was successful, the authors continue to see subject of this project as a field of opportunity for further research and education.

This document and the accompanying video discs are a chronicle of the milestones during the final third of the project. The activities prior to those documented here included the design and maturation of the project and research. As the goals of the project were not entirely research-focused, the project documentation reflects those aspects of the project necessary to its completion.

The authors view this project as a success, in so far as they accomplished the primary goal of providing an educational experience in a special topic to a group of their peers. They, however, leave the judgment of their success as educators and/or researchers to those students that chose to take the class for credit and to the thesis advisor.

Course Description

(Excerpted from Honors College course descriptions prior to January 2003)

Japanese keyboards, Chinese internet regulations, Namibian TV, these are but a few examples of how information technology integrates with the global marketplace. This course will give a survey of how information technology affects a culture within a global context.

Alex B Chalmers and Josh Mahler have taken the initiative to design and teach this course as a part of their honors thesis project. Dr. Tom Harris, the Chair of the Information Systems and Operations Management department of the College of Business is not only the advisor of this project, but is also the sponsor for this colloquium. The course will consist of 15 hours of class time based on an arranged schedule in the middle of the Spring 2003 semester. Course work may include outside readings, written tests, and at minimum one group project.

This course is open to all students who have an interest in learning more about information technology. For students in the Honors College, it can count as honors credit. If you would like further information about the course or would like to take the course, feel free to contact Alex and Josh at Authors@FundamentalsOfIT.com.

Syllabus

Fundamentals of Information Technology in the Global Marketplace
MGT 495-001 Spring 2003, WB203 MW 5:00p – 6:15p

Syllabus and Course Outline

Alex B Chalmers, *Student Instructor*
abchalmers@bsu.edu

Office: WB203, 285-5322
MW 4:00p – 5:00p
Home: 287-9160

Josh Mahler, *Student Instructor*
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MW 4:00p – 5:00p
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Dr. Tom Harris, *Faculty Instructor*
tharris@bsu.edu

Office: WB203, 285-5322

Text

None Required

Course Prerequisites

Instructor Approval

Course Objectives

This class is designed to provide insight to the role of information technology (IT) in various cultures around the globe. Students will benefit the most from this course by taking an active role in discussing the various IT related topics. Upon completion of this course, students should have a better understanding of the impact of IT upon assorted cultures and how those cultures integrate with IT.

Course Grading Procedures

Your grade will be determined by the following items:

Class Participation	25%
Assignments	25%
Final Project	50%

As class participation is essential to the success of this course, attendance to all class meetings is mandatory. University-sponsored or otherwise excused absences will not result in a reduction in the student's final grade, so long as all course work is adequately completed in a timely manner. In the event of one unexcused absence, a ten-percent penalty will be assessed to the student's final score. A subsequent unexcused absence may result in course failure.

Class participation is defined as the active participation in all in-class discussions or activities. Students are encouraged and expected to share opinions or insights on any relevant topic being discussed in the course. Assignments will include, but are not limited to, one case study where student pairs are assigned to research and report on a given topic. The final project will consist of a group presentation on selected topics presented within the course. Each group will be required to give an oral presentation accompanied by a written report before the completion of the course.

The course grading scale will be as follows:

Achieved	Course Grade
94% - 100%	A
90% - 93%	A-
87% - 89%	B+
83% - 86%	B
80% - 82%	B-
77% - 79%	C+
73% - 76%	C
70% - 72%	C-
67% - 69%	D+
63% - 66%	D
60% - 62%	D-
less than 60%	F

Plagiarism, or any other form of cheating, will not be tolerated. The penalty for such acts will result in immediate failure of the course, no exceptions.

If you need course adaptations or accommodations because of a disability, please notify an instructor and contact the Office of Disabled Student Development (SC 307) for assistance.

Course Schedule

February 24	Course introduction and introduction to information technology
February 26	Personal technologies
March 3	Continue topics in personal technologies
March 5	Media convergence
March 10, 12	Spring Break – No Class
March 17	Business related technologies
March 19	Continue topics in business technologies
March 24	Legal aspects and special topics
March 31	Final presentations

Course Content and Presentations

Course Introduction and Introduction to IT
February 24, 2003

Instructor's Notes

Points of Discussion:

- Introduce instructors
- Distribute and review syllabus
- Have class introduce themselves
  - Name, Major, Newest Gadget
- Have class determine a comprehensive listing of information technology examples (see note 1)
- Introduce course definition of information technology (see note 2)
- Give course examples of information technology
- Narrow scope of information technology (see note 3)

Notes:

1. Examples of information technology can include anything from computers, radio, TV, etc. to books, newspapers, and even language.
2. IT (information technology) is a term that encompasses all forms of technology used to create, store, exchange, and use information in its various forms (business data, voice conversations, still images, motion pictures, multimedia presentations, and other forms, including those not yet conceived). It's a convenient term for including both telephony and computer technology in the same word. It is the technology that is driving what has often been called "the information revolution." ("IT")
3. IT, for the purposes of this course, will consist of those information technologies that can be included in "high technology": a highly technical implementation; usually involving electronic hardware; "automation replaces human workers by machines." (WordNet)

See Disc 1 in Appendix F for the video recording of this class.

Personal Technologies (Telegraph, Telephones, Satellites) February 26, 2003

Instructor's Notes

Points of Discussion:

- Technological entrenchment
- Review timeline
- Discuss telegraph as it relates to today's technology
- Discuss downfall of telegraph in favor of telephone
- Discuss similarities between telegraphic/telephonic technologies to data transmission technologies
- Discuss cellular systems
- Discuss satellite systems

Notes:

1. Telegraph – Fashoda Incident (Standage)
2. Land line vs. Cellular telephones
    a. Disparity in trend from "norms" in Japan and Germany
    b. Perceived relationship to world events

See Disc 1 in Appendix F for the video recording of this class.

Personal Technologies (Radio, Television, Computing)
March 3, 2003

Instructor's Notes

Points of Discussion:

- Discuss radio timeline
- Discuss television timeline
- Discuss computer/Internet timeline
- Review technological differences globally in systems
- Discuss attitudes toward information technology globally

Notes:

1. Costs of Color TV: RCA CT-100 $1000 ($6700) / 12.5", Admiral $1175 ($7870) / 15", Westinghouse $1295 ($8710) / 15" ("Relative Value")(TV History)
2. Key Dates: 1987 – Japan Analog High Definition system [completely incompatible with past, present, or future technology], 1996 – US Telecommunications Act revised 1934 legislation, 2006 – US declares all television broadcasts be in digital high definition (TV History)
3. Radio – 37 years to hit 50 million; Web – 3 years (Naughton)
4. Role of IT- Business (US); Arts (Australia)
    a. In Australia: Department of Communications, Information Technology, and the Arts
5. What is the driving force behind IT?

See Disc 2 in Appendix F for the video recording of this class.

Media Convergence
March 5, 2003

Instructor's Notes

Points of Discussion:

- What is media convergence? (see note 1)
- As a class, come up with a list of Media Convergences (see note 2)
- Tell story of the Caffeine Machine and how it is not an example of media convergence ("Caffeine")
- History of Media Convergence
  - Not something new... think of music videos
  - Are there any other old Media Convergences?
- Discuss specific convergences (see note 3)
- What do you see being the limitations of some of these media convergences? (see note 4)
- What are the effects of Media Convergence? (see note 5)

Notes:

1. Media Convergence covers the social, commercial and technological implications in the convergence of broadcast, cable, Internet, telephone and wireless technologies ("Media Convergence")
2. Cell phone, game systems, IP telephony, computer with TV tuner, Internet radio, media players, etc.
3. Business related technologies
4. IP Telephony
5. Teleconferencing
6. Limitations
   a. A media convergence is not taking all media and distilling it into one device
   b. Media convergences are forcing companies to seek out new ways to make money on the products they distribute
   c. Most media convergences rely on computers and the Internet
   d. Internet connectivity is not ubiquitous and is inconsistent

7. Effects
    a. Internet radio taking over broadcast formats
    b. Digital prints of the newspaper

See Disc 2 in Appendix F for the video recording of this class.

Business Technologies
March 17, 2003

Instructor's Notes

Points of Discussion:

- Discuss current assignment status
- Current business technology topics (see note 1)
- Monitoring communications access while on the job
  - What guidelines should be in place?
    - Such as what can email be used for?
    - Using cellular phones at work?
    - Chat rooms?
    - Instant messenger?
  - The rules of network access, or the exceptions to the rules, are defined by the norms within a business, within a culture
  - How is the globalization of these norms going the affect what rules, or exceptions, are in place?
- Give final project assignment

Notes:

1. Business technologies
   a. Cell phones
   b. Laptops
   c. Tablets
   d. Intel Centrino chipset
   e. Hotspots

See Disc 3 in Appendix F for the video recording of this class.

Business Technologies Continued
March 19, 2003

Instructor's Notes

Points of Discussion:

- E-commerce in the global context
  - What are some special considerations that must be addressed when conducting business globally?
  - Difficulties due to differences in regulations
    - Countries must follow their local regulations in addition to the regulations of the countries a company is doing business with
    - Example: Digital Signatures
    - Introduce ICC (see note 1)
- Differences in what is available to residents of a certain country
  - Namibia case study (see note 2)
  - Statistics on Namibia's technologies (see note 3)

Notes:

1. ICC "is the voice of world business championing the global economy as a force for economic growth, job creation and prosperity." (ICC)
2. Namibia
   a. Technology haves and technology have nots, as well as the can nots
   b. Namibia is a can nots: those who can't use the technology and couldn't afford it if they could
   c. Information creation
      i. While providers may be plentiful within an environment, information about the environment may not be available
      ii. You can be technologically rich yet informationally poor and vice versa
      iii. Most people can't even buy a printed newspaper, let alone Internet access
   d. Television topics

i. Most programs were American reruns
ii. Very old Baywatch episodes cost only about ¼ of local programming when buying them from America (Wresch)
iii. One channel available at that time
iv. Number of people per TV 34 vs. 1.25 (US) (CIA World Factbook)

e. Social factors
i. Education takes money, time
1. Unemployed workers usually cannot get educated above typical lower-class norms
2. Subsistence living, education, literacy

f. Internet
i. ISPs: 7
ii. Population 1.8 million
iii. GDP per capita: $4500 (US $27,700)
iv. % of internet users: 3.3 (CIA World Factbook)

See Disc 3 in Appendix F for the video recording of this class.

Legal Aspects and Special Topics
March 24, 2003

Instructor's Notes

Points of Discussion:

- Since the Internet was founded in the US, American ideals and attitudes prevalent on Internet
- Censorship
  - Saudi Arabia – religious, social
  - China - political
- Who owns the Internet? Why?
- If nobody owns it, how does it survive?
- Who controls the Internet? Why?
- What happens if the telecommunications providers stop? If electricity becomes unavailable? If we have a modern day Alexandria?
- How much of the information in existence would be lost? Why?
- Repressive governments can, try, and do control media outlets, Internet included
  - Internal attack mechanism: web pages can be changed so quickly that it can't be regulated the same as other media outlets
- Misinformation
  - Purported misinformation in Iraqi conflict, such as the report that five planes and two helicopters are downed in Iraq
- Information technology is only as good as the information put into that technology
  - Dealing with information control
  - Audit trail for information going into the system and out of the system
  - Garbage in... garbage out

See Disc 4 in Appendix F for the video recording of this class.

Final Presentations
March 31, 2003

Instructor's Notes

Points of Discussion:

- Group one presenting on third generation cellular phones
- Group two presenting on broadband network access
- Group three presenting on wireless hot spots
- Instructor and course evaluations

See Disc 4 in Appendix F for the video recording of this class.

Assignments

Case Study

MGT 495 Assignment One
Case Study

This assignment consists of picking a country (other than the United States, Canada, Mexico, Japan and Germany) and a technology that the class has, or has not, discussed and writing a paper on one of the following topics:

1. Give the history of the technology in the country including, but not limited to:
   a. Dates of first use
   b. Dates of first widespread use
   c. User base – government, businesses, public, combination, etc.
   d. Current extent of use

2. Compare and contrast the use of the technology and how it is similar or different to how it is used within a global context.
   a. Make sure to include the user base, number of users, and when it was first used

For either option, include answers to all sections of the question in a research paper format in 3 pages or **less**. Be sure to cite all sources used. There is no minimum or limit on how many sources may be used for the completion of this paper. Feel free to contact the instructors with any questions on completing this assignment.

Due: Wednesday, 19 March 2003

Final Project

MGT 495 Final Project
Group Presentation

This project constitutes the capstone to the "Fundamentals of Information Technology in the Global Marketplace" course. The project's goal is for the students of the class to expound on the knowledge and perspectives presented throughout the course by presenting on a relevant topic within the course's scope.

As a group of three to four students, select one of the following topics and craft a 17- to 20-minute presentation for the rest of the class which addresses at least these key points:

- Where is the current concentration of technology use?
- What are current and/or proposed applications of the technology? How are these applications being utilized today?
- What impact will this technology/application have on the global marketplace?
- In your opinion, will the technology/application have a wide acceptance base in the marketplace?
- What applications could be constructed from the technology in the future?

These points should be considered as a suggested range of topics, the presentation can include a wide range of other topics thought relevant.

Presentation Topics:

- Third-generation (3G) cellular phones and networks
- Broadband network access
- Wireless network hot spots (non-cellular networks)

An annotated bibliography should also be turned in on the date of presentation. There is no minimum or maximum limit on the number of sources that may be used for the completion of this assignment.

Feel free to contact the instructors with any questions you may have on completing this assignment.

Due: Monday, 31 March 2003

Authors' Journal

What follows are transcripts from the authors' video journals captured throughout the course of the project. These discussions document the authors' ideas, motivations, and feelings of the project prior to the first class meeting, at the midpoint of the course, and at its completion. These journals are relatively informal conversations between the authors, giving an insight into decisions and opinions beyond documentation provided elsewhere or in the capturing of the class meetings. Due to the nature of these conversations, and the desire to capture their essence in text form, no grammatical modification has been made for the purposes of transcription. The video journals in their entirety can be found in DVD format on disc five of Appendix F.

February 13, 2003

Chalmers: Hello I'm Alex Chalmers, and I'd like to welcome you to this first of three sessions in discussing our senior honors thesis project, "Fundamentals of Information Technology in the Global Marketplace."

Mahler: Hello, I'm Josh Mahler. We are videotaping these discussions, thoughts, and ideas about our senior honors project because we would like you to get an idea of our project on a very informal, intimate level. Instead of reading back what we thought about our project at certain points and times, we would like you to just be able to just sit back, relax and enjoy the discussions that we've had about how we came about constructing this project and then actually doing the project.

Chalmers: As we're still ten days away from class, today is February 13, 2003, this conversation is going to be really about how we "designed the bowl." This is how we got our thesis really planned and how we are setting foot ten days from now.

Mahler: So, how did we, Computer Science students, Honors College seniors wind up teaching a Management course in the Fundamentals of Information Technology in a Global Marketplace.

Chalmers: Good question, really Josh. You know we've.., you and I have talked about this several times. It really happened by accident.

Mahler: Yeah, you came with your idea of wanting to teach a course in computing and I have always had in the back of my head, what is computing to people outside the United States? For example, what does a Chinese character keyboard look like?

Chalmers: Exactly. I've always had the idea of teaching a class in the history of computing. I'm a computer history nut. I love looking at old punched cards, trying to figure out what they say and everything else... And that night that we actually had our conversation over dinner, I realized that people just wouldn't accept a class like that on its face: because to most people it's boring.

Mahler: Yeah, outside of the Computer Science department, who cares how the word "bug" really came into computing. I mean who cares about the history of that.

Chalmers: Well even in computing science, the computing sciences, I don't think there is too many people who have the same frenzied attitude towards it that I do. But, your idea sparked another idea in both of our heads. And it came to finding out who was the best fit to be our thesis advisor at that point.

Mahler: And when we were talking about our theses to each other, I was currently taking a class with Dr. Tom Harris in the Management department. Through the class discussions I've had with him I've realized what type of person he was and the background that he's come from. Dr. Harris, or Tom, as we call him, has a lot of experience in a multitude of environments. I mean he's been a consultant for years, he's been a professor for years, he's worked in University Computing Services for years, and he started out in school wanting to be a statistician. So, he's really a well-rounded person.

Chalmers: Actually, I think his term was he wanted to be an accountant, or a "bean-counter", and couldn't stand the first six months of his classes. And so we approached Tom and he accepted gladly. It was one of the simplest meetings I think I've ever had with anybody.

Mahler: That's the way all of our meetings with Tom have gone, he has the faith that we kind of know what we are doing, and so he says, yep, that'll work guys, or no, you should think about something else and that's about it, so that's one nice thing we've gotten from Tom is the freedom to develop this project the way we wanted, and only if we going way off course does he give us a few suggestions.

Chalmers: I think that's really key to how we've gotten to where we're at. Because we didn't start out wanting to teach a course.

Mahler: No, originally, with the combination of our original ideas, we came together and said, hey lets do a lot of research in this field of information technology on a global level, and let's give a couple

seminars of how a course could be constructed in this. We were hoping that at the end of the semester we could get some distinguished faculty around campus to come and listen to our talks and maybe one of them would actually pick up the course and run with it. So, we went around campus and started talking to various people, starting with Phil Repp, who was the Associate Vice President of Information Technology.

Chalmers: And I think I wanted to talk to Phil at the level of administration, really, to find out how administration would really take a hold of one of these courses. I think I always had at the back of my mind thinking that this might fit into the University Core Curriculum or something of that nature. Upon looking at it a little deeper, I don't think it was going to quite work, but I think the class still has plenty of merit on its face.

Mahler: And from our discussions with Phil, I think he really kind of sparked an enthusiasm for this project in us, because he himself was very excited in the course and he relayed that enthusiasm to us very nicely. So when we left his office, I know for sure that I was pretty excited about what we were getting into.

Chalmers: Right. Phil also brought out a couple of other good points in the fact that our scope was either too vague being a global symposium and a global survey of a bunch of countries or it was too narrow in the fact that it was the same thing. He really gave us one of two options, either make it very broad with a few countries or make it very narrow in countries and make it very broad in technology. And I think we took some of those ideas and ran with it in the next iteration of our project about three hours later.

Mahler: Exactly, after meeting with Phil, we ran through a few other names on campus on who we would like to meet, and the next person that came across was Scott Olson, the Dean of the Center for Information and Communication Media.

Chalmers: Actually, the College of Communications... the College of Communications, Information, and Media.

Mahler: I think he even has a hard time remembering that. So we went to Dean Olson, and we presented him our project in the same manner that we had presented it to Phil Repp.

Chalmers: With slight modifications if I remember just based upon how we termed a few things because we knew we were going to be change certain things very quickly.

Mahler: And Dean Olson is someone who is very; very high energy wants to get stuff done and wants to get it done now. So after presenting to him our thoughts, he suggested, "Well guys why not just do it. Instead of trying to build the framework for somebody else to do it, and build off of your hard work, why don't you guys just do it?"

Chalmers: At one point I actually believe he offered, if we would revamp part of the course to fit more within the CCIM boundary, to help fund the course with a potential iCommunications grant. With the iCommunications program being a $20 million endowment from the Lilly Foundation. I think at that point, we realized that we had something that we could go with and run with if a Dean actually thought we had something that plausible and applicable, really. But I think we both had apprehensions about taking a grant in the conditions that were set forth at that meeting.

Mahler: Exactly, I think Dean Olson really wanted to help us out, and I was very, I don't know if impressed is the right word, but I was happy to see that a Dean of his status would encourage a project like this and he would want to give some of his funds where he has control over towards this. But I think we both in the back of our heads said you know if we are going to make this course happen I think we should be in charge of it. So after leaving that meeting, we still got more enthused about what we were going to be doing with this course and we went back to our thesis advisor, and talked to Tom about what we had learned from our meetings with Phil and Dean Olson.

Chalmers: And Tom was very receptive, I think, to the idea. And I think he agreed with us that if this is our project we should be in control of it's destiny, and be able to determine what material we actually want to present: something that was going to be limited in taking Dean Olson's offer as nice that offer was and as much as we appreciated that offer.

Mahler: Exactly, so from that point on, we said to ourselves, "hey we're going to teach a course next spring. We are going to actually turn this project into a course that students would register and get credit for." So in order to do that, we had to go talk to a few more people, starting with Dean Ruebel, of the Honors College, who all senior honors thesis projects must go through him for approval, and we had done this previously but with this kind of new twist on things, we had to go back to him and get his stamp of approval.

Chalmers: We presented it on its merits, I think. And he said yea, I think that'll work. He said there was no money for it. And that wasn't a

problem... we already had clearance from our advisor to use him as the instructor of record and he would be in charge of the course for all logistical purposes but we would be in charge of course content and that type of material. But there was a caveat, and that caveat was we had a bowl, but we didn't show how we made it.

Mahler: Exactly, when we went to present our original idea to Dean Ruebel, he presented the situation of once you guys get this done, what are you going to hand to me, what's going to fill my bowl of senior honors thesis projects, so we had to come up with a listing of stuff that we were going to throw in that bowl, and that is going to range from discussions that we are having right now, to papers students in our class hand in.

Chalmers: Our first draft of that it was everything that the bowl was: course materials, syllabi, all that other stuff. When we had that second conversation with Dean Ruebel I think that really opened our eyes to what we really needed to focus on for the Honors College requirements as well as what we had to do to in order to make the thesis work.

Mahler: Exactly, so we've got this idea of we are going to have a class in the spring and we have to work out a few of the minor details such as how we are going to get students to enroll in it and what kind of class it is going to be. Being fourth year computer science majors we decided to just scale the class down to be a one credit hour colloquium within the Honors College. We felt that a colloquium style would probably be the best fit for the type of environment we were trying to get.

Chalmers: Not only that but the course material itself changes at such a vast, you know, such a rapid rate there can't be any texts really written about it. And the only way to really discuss something of this nature is to discuss it at a peer-to-peer level. And so I think in this class, we, as students, are going to be participating not only at the instructor level, but also at the student level learning from our own students. And I think our students are going to learn from each other. And I think Tom is going to be learning from everyone.

Mahler: Exactly, the colloquium forum in my opinion is one my more favorite classes to enroll in, because it really gets you in an environment where you can freely express your opinions. So we've decided to go with a colloquium and we're now faced with how we are going to get students to sign up. Who wants to take a class from a couple of guys who think they know what they are talking

about in information technology. So to do that, we had to do a little bit of advertising for the project.

Chalmers: Posters, mass email, the usual suspects really came into play, the poster probably being the most beneficial of them all. We also had a mass email out to all of the Honor's College students, many thanks to Dean Ruebel for helping us out with that. But for the most part the ten students that we have enrolled in the class seem to really take to the wide variety of the topics that we, you know, proposed in that course description.

Mahler: And just to make sure that the course they were taking and that we were designing would be of some significance to them. We constructed an online survey to get an idea of kind of what kind of students we had coming in there. We wanted to make sure it wasn't all CS majors, or all English majors, we wanted a variety of people because that's what we feel this course is intended for. So through that survey we found that we've got finance majors in there, we've got business majors, we've got, I think there is a CS major or two, but there is students from a variety of colleges around campus, and I think that is good.

Chalmers: I really enjoyed the diversity that I think we have got in our class; although we haven't met them yet in a classroom setting. We did have an introductory meeting while we were going through that but for the most part, we haven't met these people, we haven't talked to these people, and we're looking forward to doing that.

Mahler: Exactly, so, we are ten days away from our first meeting. We have been researching what we are going to present, or what we are going to discuss in our class, since what about a year ago this past February. Quite awhile ago, we've been researching a long time. Um, we've concluded that in order to, I guess a plan of action for this research, would be to start out with some minor statistical analysis and then see what we get from that.

Chalmers: Right, and we started off trying to take a random sample of countries from around the world, we tried to go from geographic location, its population, its monetary wealth, but then we threw a curve ball into the works... perceived world impact.

Mahler: Yeah, in order to get a fair sampling around the globe, it wouldn't be fair to take small islands that in our opinions don't play a major significant role in this global culture, this global marketplace that we live in. So, after picking three or four from every occupied continent on the globe, we threw in a couple extras that we

thought would really make this set a well rounded group so we could get a nice sample of how the world can be represented.

Chalmers: And it became very clear that the major countries of the world, the US, China, Japan, had a major impact in the technology of the world and made up a large percentage of the technology consumers of the world.

Mahler: Exactly, so, our final list consisted of, I believe it was 36?

Chalmers: Yes, thirty-six.

Mahler: 36 countries, and in those 36 countries, we started compiling statistics such as the number of Internet users, number of radios in use, number of TV stations available in that country. And we really saw a wide variety in the results.

Chalmers: It became clear to us just in one example, the cell phone category, while the GDP was climbing, we noticed that cell phones also climbed, the number of cell phones stayed relatively normal or normalized rather, expect for two distinct countries, and those were Japan and Germany. And neither of us could find statistical evidence, at least, that those countries would have that type of infrastructure in place. We noticed that a lot of developing nations had more cell phones than land lines, but we determined that that might have been from technological entrenchment: they were just now getting the infrastructure in place. Also the distance between major cities. But Germany and Japan don't fit into either of those... they don't fit into really non-entrenched technologically or with large distances between their populated areas.

Mahler: Exactly, so we couldn't really come up with a clear definition of why that was the case. So we relied on some anecdotal evidence, we cracked open our history books and kind of took a look at what may have happened within those areas to create the results that we were seeing. And we found a couple of similarities between those countries. The fact that both countries had to go through a rebuilding process after a mass destruction. And this point is exactly what we were looking for in our course. We needed to find how technology, or information technology, has become a cultural thread somewhere in an environment, such as Japan and Germany.

Chalmers: And in Japan and Germany, historically, you had World War II that destroyed their nations and rebuilding a nation takes a lot of time from what we've discovered in our history. And being able to link two events: a technological revolution, which came about in the 1950s and 1960s, with space programs and things of that nature,

really creating an influx of technology you start seeing technology go into these countries, and be able to flow into these countries freely and it really goes to show how a country starting from scratch in a technological era can utilize those technologies and that's one of many relationships that we've seen throughout the course of the research of this project.

Mahler: Exactly, so with that topic, we started making a list, or building off of that I should say, we started to come up with a list of what can we discuss in these seven class meetings that we are going to have with ten students. From that list we divided our topics into basically three main categories. You've got some sort of personal technologies, and you've got some sort of business technologies, and then you've got a third category that's a little bit smaller where we have media convergence and we look at some of the legal aspects.

Chalmers: It's really an "other" category.

Mahler: Yeah, exactly, so with our personal technologies, which is where we are going to start in the course, we are going to take a look at the major players in information technology and how they are a cultural thread in people's personal lives such as communication devices. We are going to talk about cell phones, radios, TVs, those types of things.

Chalmers: And then, there's also the computer. The computer has become part of everyone's life, I think, in some way or another. I was just reading the other day that the Web is now part of most people's complete computer experience. No longer is it just the computer and then you have a dial up and have a slow internet connection, the web is seen as a critical part; and the Internet is part of that.

Mahler: Exactly, so we are going to discuss how the Internet plays a role in people's lives, because it definitely has a major cultural impact and we have seen a correlation in the some of the statistical analyses that we have done, where we can relate the Gross Domestic Product of a country versus the number of Internet users and other factors. We have realized that the Internet as a personal technology definitely should be included in this course.

Chalmers: Most definitely. Although just comparing the GDP of a nation and the Internet, number of Internet users, may not have a one to one correlation, there, like you said, are other factors such as legal issues. We have two countries, Saudi Arabia and China, that block more World Wide Web sites than any other nation; than any other nations combined. And those are big topics of interest that we

need to discuss in such a way that those topics become relevant when compared to statistical data.

Mahler: Yeah, we really want to take some of these topics and open the eyes of our students, because sometimes when you are in a college environment, your vision is kind of narrowed down a lot. You're trying to focus in on a specific topic, and learn the nuts and bolts about a system, where we want to able to step back a little bit and give a much broader view of why things are sometimes the way they are and how information technology has created cultures, or I'm sorry, has played a role in the creation of cultures across the globe. So after personal technologies, we are going to move into topics dealing with media convergence. We live in a world where, well at least here in the United States for example, where things are connected, you have Internet on your TVs; you have TV on your computer.

Chalmers: You also have audio everywhere, and that's a culture that we have here in the United States, but there are other cultures out there that are devoid of all communication and how do they move along. They don't know what a computer is. There are some people that are struggling to work 8 hours a week for pennies on the day. We need to utilize those to really open our students' eyes because this course isn't to gloss over the subject of information technology at all, it's to show the disparities between this person and this other person who may be living in the same country.

Mahler: And media convergence, whether it be through very technical devices such as like I said a computer and the TV takes a variety of forms depending on the culture that it is within. So, that will be definitely an interesting topic and a nice way to make the pass to business related technologies, which would be one of our next major subjects within the course.

Chalmers: Bridging the gap between media convergence and business technologies is really a simple one, because business technologies anymore circle around the connectedness of the computing infrastructures and the telephony infrastructures. Video conferencing is huge. And being able to show that those technologies, as well as being able to market those technologies, business technologies are not necessarily the best that are out there, they may be the most marketable. And those are things we need to show within the course in such a manner that we can move forward and show while these are marketable in this nation, in other nations they are not as marketable and go into the legal aspects of the technology itself.

Mahler: And living in a capitalist society, the United States, the way we conduct business may be drastically different from how it is in a republic such as China for example, the technologies that they can and are allowed to use in their companies definitely play an impact on how fast they get business done and what they are able to produce. A few years back, Japanese auto makers really took over and controlled the entire automobile industry, they were able to produce cars in such a fashion, that the American companies just could not compete, we're hoping to look into finding some correlations between a technology they may have built upon that explains why something like that could have happened.

Chalmers: There are other points that are very salient to this discussion that we may not be able to cover and while we would love to cover them, I think, it's really no fault of our own. There are just too many time constraints with this project to be able to complete them all in the manner that we want to complete them.

Mahler: Exactly, and that's why we're only presenting a one hour class where we hope that if a teacher sees this, that they can construct a course that's maybe a three or four credit hour class and really get into some more distinguished or detailed discussions on some of these topics. For the purposes of our course we definitely really just want to give an overview, the fundamentals of information technology and how they relate on a global level. After discussing business related technologies, we will wrap up the course with some legal aspects and some special topics within this.

Chalmers: And, I think we went over a lot of that: as far as censoring certain websites and really what are the motivations for a nation to do something like that, and how do you do something like that especially with something as diverse as the Internet, somebody with a modem can easily bypass that.

Mahler: Exactly, and not only how but what impact does that have on a culture, so do you see a black market in a culture like that for Internet users such as we see on some banned things here in the United States. Is there such a thing over there? Hopefully we'll find out.

Chalmers: I really think that in ten days we will see a very diverse set of topics be presented and I think even we're going to be surprised at the kinds of conversations that we have.

Mahler: And as we videotape all of our classroom discussions, it will be a nice way of capturing some interesting discussions that can take

place with our students, with our diverse group of students. So I'm looking forward to it, in ten days, I'm sure we'll be ready.

Chalmers: I'm sure we will too.

March 12, 2003

Mahler: Hello, I'm Josh Mahler. This is the second interview of three sessions where we will be describing to you our senior honors thesis project, "The Fundamentals of Information Technology in the Global Marketplace."

Chalmers: Hi I'm Alex Chalmers and today is the 12th of March, 2003 and we currently have four classes of eight left.

Chalmers: Now Josh when we started this whole endeavor, we really had one quote in mind, and I have it written on this piece of paper here, "Globalization, as defined by rich people like us, is a very nice thing... you are talking about the Internet, you are talking about cell phones, you are talking about computers. This doesn't affect two-thirds of the people of the world."

Mahler: That quote in essence is why we are teaching this course this semester and why we decided to have this project, because living here in the United States, our vision is a little tunneled as compared to what's really out there in the world in the field of information technology.

Chalmers: President Carter when he made this quote really, I think, had a good grasp on what people of the world have as far as technology. And who people are across the world. Because he's right, two-thirds of the world doesn't have the technology that we have here in the United States, either because they're a developing nation or they don't have the resources as a developed nation to put the money into building up new infrastructure. And that's really a core element of what we've been looking at over the past four class meetings, is technologies by nation, in some instances.

Mahler: Yeah, a lot of the countries around the globe are maybe just too small to support a nationwide Internet structure, I mean some of them may not even have a phone system that can reach all parts of the country like we have. So bringing up this quote in one of our first class meetings was a good idea to get the students in the right frame of mind for when we are discussing the topics in our class.

Chalmers: It was really a tone-setter for the rest of the class because it helped us build off of this and while we've shown the history of, you know, information technology, in our first three class periods, as I'm sure we're going to talk about here soon, we never really mentioned the globalization of technology until this last class

meeting where we are starting to discuss the global effects of these technologies in a much broader, much more generalized scale.

Mahler: So the very first class that we had, we had to start somewhere, and so we decided to break down exactly what our class was going to cover, beginning with what is information technology. In order to do that, we asked the class to throw out a bunch of ideas of what they thought information technology was, and we had a few of our own ideas to add to their list. And from there, we were able to give a definition that we found fit the essence of this course quite nicely.

Chalmers: Right, and realistically we're saying information technology is any form of technology used to create and store information in various forms. That's relatively a high level definition. We've kind of cut that down, for the purposes of our course, since it is only eight class meetings, so that we were only talking about those associated with high technology, and high technology being devices electronic in nature that really, as we've looked back, haven't occurred except in the last 30-40 years after the advent of the electronic circuit and transistor technologies.

Mahler: Yes, information technology can be many, many different things, but like you said there is no way we could possibly cover all those technologies in this class. And we didn't even want to try to do that because the way we are looking at information technology in the global marketplace, we feel that these high technologies are much more significant for our class.

Chalmers: Right. Everyone pretty much knows language as a technology, they know the concept behind the language, and it's easy to grasp, because we use it everyday. The same goes for books, and video media, as far as television, telephony media it works because it's a concept that you can grasp on to and use it on a daily basis. Something like the computer, where we take advantage of it here in the United States, but the rest of the world, not everyone has a computer on their desktop. Even there's places in the United States that not everyone has their own computer. And while that's not shocking to a lot of people, because they've grown up in an era where the computer didn't exist as it exists today, I think our generation really needs that wake up call to say "Look this technology hasn't always been here and the technology is changing; and its changing the face of the global marketplace as well." I think that's really where our class is fitting in.

Mahler: Yeah, wrapping up the first class, we decided to discuss a few quotations that we had come across along with the quote by President Carter that we spoke of a few minutes ago, we looked at some quotes by Carl Sagan, and Octavio Paz, a few people that have been sometimes in the spotlight in information technology or well known philosophers or artists, and they had a couple of interesting things to say about the state of information technology as it relates to both the global scale and what it is in its pure form.

Chalmers: And I believe it was the quote by Karl Krauss, I apologize for forgetting his name at this moment, it doesn't just talk about the nihilism of technology, it wasn't just in a global setting, but it was really the human setting, how technology affects anyone who uses it, no matter what their ethnicity, what their cultural origins, their nationality, or even their background, information technology effects everyone in a similar way although its perception may be slightly different for a nationality or a culturally unique set of people and that really got our students talking I thought. It really – it fostered communication.

Mahler: Yeah, I remember specifically when we were discussing this quote, how we had to step back and define what we thought technology even was because that's what some of these quotes were really talking about was technology in its purest form and that allowed some of the students to step back and say "yeah I never thought about it in that sense. I guess that's technology and that form of it is information technology too, and that does have a much bigger impact in my life or some of the other aspects of my life than I really thought it had because I never considered something to be information technology before."

Chalmers: I enjoyed coming out of that first class meeting because I saw ideas already forming in our students' minds as they were walking out and discussing it amongst themselves that we didn't really think of to begin with and it put a new perspective on this course for us as well as take a bit of the weight off the course because we realized that we actually had good students to help the class along.

Mahler: Yeah, starting this project nearly a year and a half before actually putting into play got us a little anxious to get that first class over with.

Chalmers: That is an understatement by the way.

Mahler: Yeah anxious is probably not the best way to describe that feeling, but I know that once that first class was over I sure was feeling a lot better about the project and felt that we had actually

accomplished something because up till that point we had just been researching things, looking up facts, compiling statistics, and doing a whole bunch of paperwork and we never put anything into play and so I felt really good after that class. I also felt good about how we set the stage for that class because I think with our discussions, our students came out of there with a good sense of what we were going to be looking at for the rest of the course, the rest of the eight, or seven remaining classes.

Chalmers: Right, I think the other thing that we did correctly is we made a tactical decision to take the topics we had listed on our syllabus, specifically business technology and personal technologies, and break it up more into a historical perspective as the personal technologies and now the globalization perspective after that first class meeting. Because, I think the students at a personal level can understand some of the historical facts behind this technology now.

Mahler: Within the second and third course periods is where we went into detail of the histories of the various technologies. And starting with the history, or beginning to describe the histories we brought up the idea of what technological entrenchment was, which, over the last couple of classes we have hit on that topic a lot more than I had expected to, so I am glad we brought that point up.

Chalmers: The whole idea behind technological entrenchment, where a body of people are beholden to a technology for so long because of either political reasons or financial reasons, it really comes into play as we look at the events of the world. Because information technology wouldn't be anything without the events of the world; the events of the world have formed and shaped the world in which we live, including the technologies that we use.

Mahler: Correct, the topic of technological entrenchment was a good way to introduce some of these technologies. Beginning with some of the early information technologies such as the telegraph and the early telephone we were able to relate to our students why a country like the United States has a larger ratio of land lines to cell phones, than a more developing, or a country such as Japan would have a different ratio of land lines to cell phones, and bringing up that topic of technological entrenchment made it easy for the students to understand what we were really talking about.

Chalmers: The other thing that we did, I believe, correctly was in the historical perspective we were able to show one of the other topics that we wanted to show in the course and that's everything comes full

circle. And we're not doing anything differently than what we did centuries ago, thousands of years ago, we're just doing it faster and more efficiently. And that's the whole purpose of an information technology is to store and retrieve information in the most efficient manner possible. And the telegraph was a great communications tool. But in today's society, it's highly inefficient. Now I know some people would say give me back the days of the telegraph when life was a much slower and happier time but technology has changed, mankind has evolved, and we've adapted to the new technologies as they've come about and new technologies are in high demand.

Mahler: Yeah, we pass data and information at such a high rate these days that it would be impossible for any business to function on a telegraph. Could you imagine sitting at your desk watching a metal disc tap on another metal disc to notify you having a call coming in, impossible these days, it just wouldn't be efficient. We think of not being able to live without our email, you know, there is no way we could do that with a telegraph. You're right, the fundamentals of what the technology was providing are still the same, but just the manner in how we go about communicating in this case has evolved to telephones and then to cell phones, and those are a couple of technologies that we detailed the history of quite nicely to explain to our students what's happened in the world, in the United States along the way to shape kind of the evolving nature of those technologies, and why cell phones have just really got off the ground in the last 20 years here for example.

Chalmers: I also liked your methodology behind presenting those facts in the form of a timeline. That really allowed it to be a concrete representation of the dates. Yes we added salient points in history; Napoleon seizing power of France, the first moon landing, things that people could go "oh wait, this happened at this point in history and what were we doing in information technology?" Because some of these things shocked even me. Because, like the telephone system, it was just after the Civil War ... I would have never thought of that, but it puts it into a little more perspective : not only how young our nation is, compared to the European nations, but also where we are on the timeline of mankind.

Mahler: One of my most favorite points on the timeline that we made was when most of us were born. Because just by putting that point in there, it allowed us to see wow, in our lifetime, the personal computer for example has really started with our generation, it wasn't around before us in the form that it is today, so we've been around to see the entire evolving process from the personal

computer starting with the apple IIE? The apple II, okay, up to what we have on our desktops right now, we've been around that whole time, the same story with the Internet, we think of how big it is, and its amazing to see, same case, we have been alive the entire time the Internet has been off the ground.

Chalmers: Well, just as an example on that, the Internet didn't go public until 1994, and you and I were 14 when it went public. That, in and of itself, says to me, wait, I remember the day it became public, did I hear about it? No, it wasn't until '96/'97 that I started having a very deep interest into that technology and now it's a pertinent part of almost everyone in the modern world's life, in some fashion or another.

Mahler: Right, we think about our early days of dialing up and logging on, that seems like ancient history to me now, because now wherever I'm at we've got an instant always on connection to the internet. I think of younger children who have been born since 1994, when the internet really went public and they won't know a world before the Internet, where granted we were young we were in our early teenage years, but still we can understand how big of an impact the Internet has had on personal computing. Because, I know most, well I wouldn't say most, but a lot of computer sales are related directly to the Internet.

Chalmers: I would have no question that most people say I want to get on the Internet, and that's really all they want in a computer, and some people buy a very expensive computer some people buy just what they need, but I think the Internet has done more not only for personal computing, but also the business side who uses quote-unquote sneakernet anymore, who carries a disk? Its somewhere out in cyberspace – go find it.

Mahler: Yeah, that's definitely one of the issues we will be hitting in these next couple of classes when we talk about what these technologies and how they've impacted the business world. Because going over the histories of them laid the ground work, like you said for the personal technologies. I think after the first three classes, we really had a nice solid, foundation to build upon.

Chalmers: I also noticed our class members opening up because they were able to understand the progression of the technology that they might not have had before. We have art majors, I believe we have an English major who, yes they use technology, but they may not be completely involved in technology like a BIT major would be or a Computer Science or like an Entrepreneurship major, who has to

go through the business program and is inundated with business technologies from the day you step through those doors. And I think that was very important in getting that, that was one of the best things we could have done, was provide that history, and that historical example.

Mahler: Yeah, because those students wouldn't necessarily even understand that maybe the Internet has only been around since '94. And, just a basic point like that allowed them to get a different perspective on what kind of impact some of these technologies are having. Them understanding the history of these technologies will allow us to describe their impact on more of a local level, which we will be doing on what are the fifth, sixth, and seventh classes of our course. I believe that after that third class, we really had a nice foundation to go off of and we were moving right along quite nicely.

Chalmers: And we were able to take that momentum and that inertia that we built up and move it right into media convergence. And we got so many good ideas out of that last class as far as media convergence and what media convergence is and what it isn't. You had the picture of the "Coffee Machine" computer with a coffee machine built into a desktop computer and people laughed because they got the joke, and that really set the tone for the rest of that class, I thought.

Mahler: Yeah, just like we did at the beginning of the first class, where in order for them to understand was information technology was, we asked the class to throw out some ideas of what they thought media convergence is. And we got all kinds of suggestions such as a digital camera, Internet radio, cellular phones, and the different functions they can perform these days. I think the students were really understanding what we were talking about in media convergence being some device, or some area where different medias come together and they can be accessed on one device like Internet radio. Where in the past, it had been, the only way to listen to the radio was on a radio and now, you can listen to the radio on the computer, going through the Internet. So, we brought in this idea of media convergence to bridge the gap between personal and business, but also to let them see how much of an impact some of these new convergences will have and the advantages and disadvantages of them.

Chalmers: The other important point that we made with that was the fact that convergence isn't new. We brought up the fact of music videos because that's something that we think of everyday and that grew

up in our lifetime, of all things, and one of our students brought up the fact that media convergence could go all the way back to when the church started putting words to music and even before that where words could be put onto paper. That really showed a line of thinking within our class that I wasn't thinking about, I don't think you were thinking about it either, because now they have become media in their own right and now we think of them in a completely different way and I believe our students, because of that discussion, can see these convergent media becoming media in their own right later into the future.

Mahler: In order to fully grasp the concept of media convergence, we decided to talk about a couple of specific convergences that are pretty popular these days. We looked at IP telephony, and teleconferencing, just to name a couple of them. We had a nice discussion with our students about what kind of role do those technologies have in the business world, or in your personal lives. Why are they changing the way business is done? Or, how is a device like instant messenger changing how friends communicate to each other? I think our students brought up a lot of good points and that was one of my more favorite discussion that we've had so far in this class, because I think the students did a lot of the talking as opposed to us blabbering on.

Chalmers: And I fully agree with that statement because that was probably our best class from the perspective of you and I being able to sit back and take their ideas, repackage them in some form, and have the students react on our reactions to their ideas. My only, I wouldn't say regret, but complaint with at least my input to that discussion was I think I made it a little too technical and we were able to bring it back down, but it still concerned me that I let the technical side start overriding. But I believe that is going to happen in the future. One of us is going to go off into some tangential topic and I think the students reacted appropriately. They continued to follow along, and they continued to take in what I was saying although I was about at the 50000 foot view when we really needed to be skipping right along.

Mahler: And I think having Tom, our advisor, in the class kind of helped us come back down a little bit. Because he was able to see how the students were getting a little lost in the technical jargon that you were using. Not all of the students were lost, because we have some computer science majors in there.

Chalmers: We have some very technical people in our class, and I want to thank each and every one of them because they, even if they may

not be fully technical, they understand what we are talking about, they understand I think what they were getting into in an information technology course, and they are willing to accept that and willing to work with that.

Mahler: And I think from our first class and from our second and third where we defined what information technology was and went through the history and brought out some of the terms that we were going to be using that allowed our students to follow along a little easier. So I don't think the technical talk was too big of a distraction to that class discussion but it was one of the lighter classes that we have had aside from that piece of it. I really enjoyed it, and I think our students really enjoyed that class too, because they finally got to share their opinions and come in with their original thoughts and ideas of what we were talking about.

Chalmers: You mentioned Tom a couple of minutes ago. I like what Tom is doing with our class, because he is actually participating, which I expected, knowing Tom, but I did not know how much he would participate because he was really coming into the project as a hands off, you guys know what you're doing attitude. Now, he's taking that same approach, but putting in his two cents when it makes sense for him to put that in there and he also adds a levity to the class that sometimes we're a little too serious for our own good, I think.

Mahler: Yeah, having Tom's points both from experiences that he's had, because he has grown up in a different generation where he saw some of the other technologies, like the television coming about and he was able to give his perspective on what the advancements of those technologies has meant to this world that we live in today. So just having those different viewpoints I think added a lot to the class as well, along with his technical knowledge and expertise and everything else that he has. So, I agree with you, I do like what Tom has done for the class. He is participating just like we expect the students to, and he has brought out some good points, just like they do and I think he is fitting in quite nicely. He is allowing us to control all of the discussions like we had planned on doing, definitely. So, like we said, after that fourth class, which we had just a week ago today, we came out of there feeling really, really good and excited to get on the down stretch of this course. We've only got three classes where will be discussing things remaining and a final period where we will be having the final presentations. So for the first half of the class, we gave the students an assignment in the form of a case study. The case study allowed the students to pick a country and a technology and give us the

history and what impact the technology has had on the country. They were allowed to choose any technology, whether it was one had talked about yet or not, and just about any country, we didn't want them to pick the United States, or a few others because that would just be too easy. We wanted them to do some work. So they picked a technology and a country and I'm excited to read some of the papers that we will be getting next Wednesday.

Chalmers: You mentioned any technology, I think we need to focused in that we focused on information technology. But within information technology, that's so broad, that we've given our students a lot of latitude with this project to be able to take their experiences, and their interest levels, and take that and run with it. And, like you, I am looking forward to seeing what all they can come up with, as far as the histories of these. I'm looking forward to reading them, and finding out what they've found out that you and I may have missed in our research.

Mahler: I know just in talking to a couple of the students, they had told me what the technology they had chosen. For at least one of them, it was technology that I hadn't even really even considered. So it will be nice to see what other information technologies the students feel that have an impact in the world. We tried to nail down on the biggest ones, like phones and television and radio, and what not, so I'm excited to get those back. Unfortunately, we had to give them the assignment over Spring Break, but I think they will forgive us for doing that once they hand them in.

Chalmers: We are in a very condensed timeframe though with this class. Although, I think our students are enjoying the fact that it's in this timeframe. It was a good time in which to have it, I think.

Mahler: Yeah, because in essence we are asking them to do what we had done in the couple of these class discussions that we had participated in with the class. So wrapping the first half of the class up, I think back on where we are standing as far as the completion of this project, and it looks like we are in the last quarter of the life of this project and I can't wait to get it done. But also, I'm happy to see what we have been through. The research that we have done and what we have learned, and some of the inferences we have made based on the facts we have found, and all of the discussion we have had in class, they have really taught me a lot for one, and just getting some of the different perspectives of the students in discussing these topics.

Chalmers: I personally want the project to be over, in some ways, and yet I don't want it to end. Because I think there is so much more out there that we could be discussing and if we had more time we could go into some of these in depth and we have such a good group of students to be talking about this with. But the other side of me is going "the project, as it was laid out, is nearing completion." And some projects need to be completed and put away for a while, and then bring them back out later. And I see this as one of those projects that could have follow ups later on. Maybe not by us, maybe by other people, maybe even by some of our students as a follow up to this class, and I can't wait to see what happens with it.

Mahler: So where are we headed now? We have three classes left, and we have a final presentation period. I think now we will be discussing the second half of how technology, or information technology has its place in the business world. And in those classes, we will be discussing more of the global impact that we have hit on every once in awhile in our discussions, but here is where we will really be able to focus in on what this class, the core of this class.

Chalmers: I'm looking at these next two classes as really, we have the information technology in hand, we know what information technologies we are looking at, and we know how they are being applied in certain countries. I see the next two classes as a generalization of that, being able to talk about these technologies, and their uses and non-uses in other countries that we haven't talked about yet and show not only at a national level how these technologies are used, but at a personal level, through some research that we've done on different areas of the country or different people of a nation and show the differences between them. Then our last presentation, of course, on the legal aspects, going back out a layer into the nationalism of information technology and I think all of these are very important points that we need to make going into our students' presentations, which I'm really excited about seeing those.

Mahler: Yeah, those will be very interesting, especially after we read their papers, because in the presentations they will be able to give us a little more in a research topic that we will be assigning to them. So come the next interview, I think we'll have some important things to say and some nice topics to discuss then.

Chalmers: I think so.

April 1, 2003

Mahler: Hello, I'm Josh Mahler, this interview session is the final of three interviews sessions that, where we talk about our senior honors thesis project, The Fundamentals of Information Technologies in a Global Marketplace.

Chalmers: Hi I'm Alex Chalmers and we finished our classes and we're wrapping up the paper documentation for the project and hope to be wrapped up here shortly.

Mahler: So we are finally done, we finished up our last three classes that talked about business technologies, and then the final class we discussed special topics and legal aspects.

Chalmers: And our students have given their final presentations.

Mahler: And our student's have given their final presentations this past Monday. I'm very excited to have it all wrapped up and completed. And I think those last few classes in essence captured what we were trying to get at. What we were trying to teach the students. I feel that the last class they finally picked up on what we were talking to them about the entire semester.

Chalmers: I was so psyched coming out of that last class, waiting for the presentations, because I finally saw the light kick on above some of our students' heads because it all came in and came into play. But I think let's go back the first class we had after break, and that was business technologies. Realistically, all we did was to go over the same types of things that we went over in the personal realm, only in the global setting. We talked about them as they affect the global marketplace.

Mahler: Yeah, we looked at some of the newer technologies like tablet PCs, and some different kind of ground breaking technologies that we feel are going to have a significant global impact when you look at the business world. We took some of these technologies similar to like we did when we were discussing some of the personal ones, and we explained to the students how they play a role in the business culture around the globe. When we found that from a lot of our research, the usage of cell phones for business purposes in some other countries have been much higher than here in the United States, just like we found with the personal usage of cell phones. So it was nice to talk about the business technologies, in that global setting, which we hadn't focused on a lot throughout the course up to this point.

Chalmers: Right. I also noticed that we were a lot more relaxed going into these last three presentations that we had to make. And I think that all comes down to our familiarity with the topic and the familiarity that we had with the students at this point, because we were able to boil it all down into the key concepts that we wanted to get across and have some more, I guess you would call it, banter with our students: throwing ideas off and letting them respond to it.

Mahler: Yeah the final class as we wrapped everything up talking about our special topics they finally started coming up with original ideas and thoughts and they made some very, very valid points that we hadn't even considered when we were discussing some of the technologies. And it was very heartwarming to me that after talking about the personal technologies at the beginning, then the media convergence, then the business technologies, then at the end, they finally were able to grasp a hold of all of these different things and relate the concepts that we had concluded from those technologies to something like the Internet which was the focus of that discussion, of that last class.

Chalmers: I began, really, to understand how much we were throwing at our students and how much of the information that you and I take for granted as technology advocates and technology users and it put it into perspective, I think at least for myself, because I was able to look at it and go, "oh wait, why did we not have this reaction before..." And it took six classes of background information and then one class that tied it all in together and if we designed it that way or not, either subconsciously or consciously, I don't really remember because I think the whole purpose of our course was to keep the presentation going and just cover different topics, but in the end we covered it in such a way that the close really tied the loop and completed the circle of what we presenting and made it a very strong exit, I think.

Mahler: Although we knew the majority of students in our class were not in technical majors, they probably had not taken classes where we discussed the influences of technologies on a people, it was nice to see that somebody who is maybe an art major, or a music history, I think was one of them, one could understand how technology and information technology is such an important player in our daily lives.

Chalmers: And really how it affects them and their fields of study. Because the students who I think about within the class, which is a vast majority of them, really took a lot of what we were talking about

and began to apply it from what I could tell. Those who didn't take as much from the course, I think, are those who are already integrated with the technology and a lot of the things that we were talking about already made sense to them.

Mahler: Yeah, that was definitely the fewer of the group, the minority.

Chalmers: It was a minority, by far.

Mahler: But having those people in there was nice, because they could take hold of some of the higher technically related concepts that we were trying to discuss, and actually understand what we were talking about.

Chalmers: It rounded out the discussion, I think.

Mahler: In a very nice, I also remembered one particular moment in that last class where I had given an example about the Internet and I asked to students a question and they all looked at me kind of dumbfounded like we have no idea but then when I stated the answer, you could see that everybody's face lit up and they were thinking like oh yeah I understand that now, that makes sense to me, because I know what technology he is talking about. And you are right, it took six classes to get to that point.

Chalmers: The trip was worth it.

Mahler: But, It definitely was, we had to start out somewhere and I think consciously I think we knew that had to build up the background information in order to have good discussions about them, but I don't think I expected that result where in that last class it seemed like everybody was taking part in the discussion and was excited about what we were talking about.

Chalmers: I almost wish we would have two or three more class meetings, just to see what kind of discussion we would have coming out of those.

Mahler: Especially now after the final presentations, which we will get to in a minute.

Chalmers: Those were very solid. But one thing that we did have, really early on, was the case studies, which I thought were just as solid, although possibly not as technical in nature as our final presentations. They impressed me and made me feel so much more at ease about our performance as instructors.

Mahler: We sat down one night and read through all of the papers and I didn't expect what we got, because yes, most of the students were

honors students, so they are all pretty good paper writers. But they took a technology which they got to choose and did their own research on it and made a relationship between that technology and an area of the world where that technology has a key role in. We've heard of a lot of technologies that I didn't even know existed, also in the form that they did exist.

Chalmers: One of the technologies was the "Wireless Village" idea taken in India. And, while the technology is not unheard of in our line of work, satellite and microwave wireless, its application was considerably different from anything that we have experienced and having just that one as an example, it happened to be one of the first ones we received before the due date, it helped us out immensely in seeing what we were able to import into the class.

Mahler: Especially that paper coming from probably the student that I felt wasn't getting much out of the class based on the student's reactions and participation during the discussions, so it was nice to see that student was still able to understand what we were talking about even though he didn't interact during class, like some of the other students had. So it was a clear indication that she still got it, just didn't want to participate as much in class.

Chalmers: That really didn't trouble me as much after reading the paper, because I began to understand a little more what technology bent was happening. The next class was the same topic line. And we just took a case study approach to it, and the conversations that we had were on par with our previous class but we still weren't at that level where we could talk about it fully as we did in that last class. The last class is really where I think our abilities as an instructor, as an instructor pair, really came to light, in our eyes.

Mahler: Yeah, the students wrapped up the course quite nicely by showing to us based on the discussions what they had learned. Because I remember that last class consisted mainly of us sitting back and asking a question or two to stimulate some other topics, but mainly it just fed off of what they were saying, and what a lot of them were saying, which was nice. Almost all of them participated in that last class's discussions. That was nice to see. After that class, we gave them the Wednesday off so they could have the rest of the week to work on their final presentations. They were divided into three groups, and the final presentation had to consist of them taking a specific technology which was given to them and doing research into that technology to answer about five or six key points and they revolved around how the technology is used, where it is used, what effect is it having in where it is used, etc...Points that

we had used to discuss some of the other business technologies and personal technologies that we had presented to the class. So basically we just reversed roles on the students. We said hey this is what we have been doing all semester, lets have you guys, in a 17 to 20 minute presentation give us your perspective and you do the research on this topic.

Chalmers: And the presentations were outstounding, outstanding... outstounding? I was more than pleased with the presentations. They hit the topics that we asked them to hit and, given that they had two weeks to really research and prepare the material, they had the material that they needed. I was very, very pleased.

Mahler: Yeah, we asked one group to describe wireless spots as a technology and this is out of the three, probably the newest, and so they didn't have probably have as much information, but I think they were able to capture what is happening under that topic and explain it to us quite nicely.

Chalmers: They were really able to capture the trends within the technology and be able to not only apply those trends but also apply their opinions on those trends, which meant to me the fact that they understood the technology.

Mahler: Once you can learn something and then develop an opinion about where it is going and what influence is having you know that you somewhat understand it and even from some of our questions after the presentation, they validated their understanding of that topic. That was nice to see, they did a nice job of researching and making sure they understood the topic at hand, because they were able to field our questions pretty good in most cases.

Chalmers: Like we talked about before, they only had two weeks to really get the information and so we weren't expecting the full knowledge, but expected a thorough amount of research. Our second presentation was on, if I remember correctly on, yea 3G cell phones. And again, they provided all the information requested plus a lot, I believe.

Mahler: Yeah, I remember one point in that presentation where, they told us about a situation in, in Finland, I believe it was where you could walk up to a pop machine, use your cell phone and buy a pop. I for one was thinking, wow, that is pretty cool. And there was a couple of times where they gave us stories similar to that where it really showed that here in America things aren't used quite the same way they are used in other parts of the world. So you guys need to realize this, which is what he had been preaching about all

semester, or all six classes, our short semester. So it was great for them to talk about what's happening over in Japan, and how they are using 3rd generation cell phones as a business tool much more heavily than what they are being used here and how that is changing things there and their influence of them.

Chalmers: Well, the other thing that we got into, without explicitly stating it, was the technological entrenchment because most of the 3G bandwidth, as we found out, was controlled by the DoD or, I believe, FCC regulated out so that it wasn't available and they were able to make it available once the technology came to fruition. And that really showed that concept that we talked about as a core concept, like technological entrenchment, was able to be an element of these presentations.

Mahler: Yeah, I think their presentations sounded, it progressed a lot like one of our discussion we had in class, because they began with describing the technology, and how, what it is composed of, and then how it's used, and then they wrapped up with where they feel its going and explaining why things are the way they are around the globe. So, I was pleased with that one as well. Wrapping things up, the final presentation was over broadband and this one probably had the widest range to cover, but we encouraged them to focus mainly on broadband Internet access as it's used on a personal or small business level. So, at least they didn't have to cover how broadband is used in the business world, because that's been around for a much longer time.

Chalmers: When looking at the spectrum of broadband and going everything from 56k frame relay all the way up through your OC-192s and higher, there's a lot of range there as far as data transmission and what their used for. And when the students from that group approached us about it and we gave them the limiting factors, there was a definite sense of relief in the room because they didn't know how they were going to be able to cover it all. That told me two things, one, they had already done enough research to understand the scope of what we were talking about and had been talking about for all the classes that we had, but also that they understood the magnitude that their presentation had and how it worked in with the global environment. And their presentation spoke volumes about it as well.

Mahler: I remember they took the same approach as the cell phone group where they began by describing what the technology really was, and the many, many different forms of it. I remember one student who had this part of the presentation went over probably, I want to

say seven or eight different forms of broadband. She made comments on where they had their place and why some forms of it may be used more heavily in other parts of the world, and here in America vice versa. It was nice to see her find the information about why for example DSL is the main provider for broadband Internet access at the consumer level in some other countries whereas here, the majority of the people have cable, for example.

Chalmers: And the rest of the group followed suit, I really don't think any one student in any of the presentations was ever without information and without good information. All the presentations were very well formed, all of the group members were very well prepared for what presentations that they were presenting and what questions we could ask at the end of the presentations. There were a couple questions that I thought that we made slightly too technical and we were caught on them, and I think going into those questions we knew what we were looking at and it was really a function of the amount of time that they had to do the presentation and having a short semester that really hindered our ability to give them a long presentation scheme where they could do the thorough research that it would take to answer some of these technical questions that you and I would have. And as we progressed through the entire semester, we started understanding how short a timeline we really had in getting our assignments out and providing the information so that our assignments made sense to our students. Because without the information that we provided our assignments wouldn't have made any sense. We could have easily have given them the final presentation on the first day of class with the syllabus and they could have spent the entire time working on that project. And it would have been a good project, but they would not have gotten as much out of it.

Mahler: Yeah they needed to understand the topic before trying to figure out how to answer our questions about the topic and we had discussed all three of those technologies to some extent in the classes leading up to that period.

Chalmers: Especially in those last three meetings, we made sure to cover those topics in very good detail I thought.

Mahler: So we gave them kind of a starting point on what the technology was so they could pick it up and run with it there. I remember the final group finishing up with a couple of pictures on one of the slides, and I made a comment about what those pictures stood for because I think they encapsulated what they were trying to convey about broadband Internet access. Although they tried to say they

just put them there, because they looked nice, I think they did understand why those pictures were there and the symbolism that those pictures held. It was just that kind of a presentation where they knew what they were doing and made it a good overview of what broadband Internet access was all about.

Chalmers: They covered the fundamentals.

Mahler: Which was exactly what we were looking for there.

Chalmers: Looking at the entire semester and looking at all of our class presentations and all of our interaction with our class members, I don't see one bit of down time that we had through that entire semester.

Mahler: Aside from your breakout one class where you couldn't stop laughing. We'll leave that one out of the picture.

Chalmers: Ok, yea, that one's left to be archived, and even then there's a point to be made and the point eventually got made, it's just my lack of being able to contain myself. But other than that there wasn't any down time, there wasn't any slack that we could have provided throughout the course of our presentation.

Mahler: Right, I know as we moved through the seven total classes where we were leading the discussions, they were very dense with information. We were providing the students with a lot of new concepts that they probably had not discussed before. And therefore had to convey a lot of information so they could understand the concepts and then turn around five minutes later and discuss effects of those technologies and come up with a good opinion that has some background information about them.

Chalmers: We really put our students in a difficult place in that, because the types of materials that we were talking about, unless you knew what you were looking for, are difficult to really pinpoint. The information is out there, the information is available, you just need to know how to find it and we really became the mouthpiece for that information and provided that information on an as needed basis but if I can find one fault in our presentation style, I would say that was our fault in not being able to present the material and have them take that material and be able to research that material before having to discuss it.

Mahler: Yeah, and I think that falls victim to how we were able to construct the class. We were limited, we self-limited to a one-hour colloquium style class where we didn't want to try to construct a full three credit class that could have been done to the quality of an

instructor teaching here for many years. So I think that's where some of that fault comes into place, but overall, for us to take a topic like information technology and explain the fundamentals of that topic as it relates to the global marketplace. I don't think it can get much more broad than that. Many, I guess colloquium topics are very, very specific, so I think ours was a little different where we wanted to look at the big picture and get an overview and an overall idea of what's going on, rather than a very specific in depth look at a particular idea.

Chalmers: We really didn't focus on the minutiae: A, we couldn't and B, we decided not to because sometimes I think because this was an Honors colloquium, Honors students fall victim to looking at the minutiae and not necessarily looking at the big picture. I know I have as an Honors student and you seem to be agreeing with me, so I'll take that as a sign that you have as well, but in order to understand the technology in a meaningful way, you really have to see the big picture and what the effects of the technology are. And that's really where I think our class succeeded, if it has succeeded. I can't really judge it.

Mahler: I know we'll find out on paper if it succeeded after reading the instructor evaluation forms, or course evaluation forms that we asked the students to fill out, but I can tell you just from one of the students leaving class and saying, "Thanks a lot guys. I really enjoyed this class because it was different from what we had been going through." I think he was either a junior or a senior, so he had been here for a few years and for him to say that, and I didn't expect it from him, was, well it made me feel like we did a good job on that class. So I believe when we read those evaluation forms there will be more positive statements about how we picked our topics, and how we explained our subjects, and how we evaluated the students, those core components of what a class consists of, than the negative opinions. I hope they point out what we may have not succeeded on doing in the class, but I think for the majority of them, they will say, we really enjoyed it, you guys did a good job of doing this, and etc.

Chalmers: And at least one of our other students has been working on his honors thesis project and I thought that was interesting because it was something that we hadn't talked about before and just in the prelude to class he mentioned it. While I don't know what his project topic is, or what his project is, I hope that he takes what we were trying to do in our project and apply that to what he was doing. Just to see what somebody else has done, because when we were going through the design process we went to Bracken and

we looked at past projects, we saw what past projects looked like, but we never really got to be a part of a project and we really gave our students I think a very unique look what a project really is, I think a future project idea could be easily follow the design of a project and do your project on someone else's project.

Mahler: Yeah, when you look at the spectrum of topics that these honors thesis projects consist of, they are all over the place. I was walking through the Honors College yesterday and noticed some of the students setting up in the display cases their projects, what they had done. It made me think about well, was ours, I tried to judge ours versus theirs and you can't really judge those because they were very different with what they were trying to get at. Here we were more research and education oriented where we learned a lot about what we were going to talk about and we were able to convey that information and the appreciation for information technology to the students. Some of the other projects I looked at had a different focus; they were into looking at the history of something, or looking specifically at composing a work of art, or something like that, so the spectrum of topics are all over the place and I would agree with you on that I think our project probably will help that student. For one, seeing the caliber of what an honors thesis project can take, because I know ours working together we were able to develop a very intense project, if you want to compare them to some of the other ones with two people working on it.

Chalmers: And it really had to be this intense because going back to my initial idea for a class, I understand now having taught a class being the actual instructor what we got ourselves into and how little we knew about what we were getting ourselves into when we took that outline to Tom.

Mahler: I remember finishing up the first couple of classes and saying, "Wow, this is a lot harder than it looks, especially when you are going through a class like our where you didn't have any sort of formal reference to go from. We didn't rely on a textbook, we didn't focus on a specific anything else; journal, article, any book at all. We took a gathering.

Chalmers: We didn't even focus on a real tangible topic, the topic was information technology in all of its forms in the global marketplace in all of the countries of the world. That's an awful big dartboard to be throwing darts at. And trying to encapsulate that into a class, while on the surface looked enjoyable and fun and easy, putting it together for an hour and fifteen minute class presentation, seven

class meetings, in the middle of the last semester of your senior year of college that was a challenge.

Mahler: Yes it was, and I'm for one very happy that I've gone through the experience because I have seen another side of academia, being on, it was very small, but in knowing what its like to have to develop a curriculum for a course where you are fully in charge of what's going to be discussed. You have to be sure that the topics you're talking about really hit the points that you are trying to make and expand that out so it's for an entire course. Our initial outlines of day one we are going to talk about this, day two we are going to talk about this. Those are hard to come up with, because we had to in some cases pinpoint smaller technologies or examples so that they could cover a bigger concept in information technology. That, setting up the course, which we spent a lot more time doing, involved a lot more work, and I think that may just be the nature of the beast. Preparing to do something sometimes takes more effort than actually doing it, but its that preparation, and its our detail, or our detailed work of making sure that we were ready for each specific class and the topics that we were going to talk about for the whole course made the classes more enjoyable for us, because we were able to relax a little bit and be confident that what we were talking about was what we really wanted to.

Chalmers: And going back to what we talked about in our last discussion, we really changed our focus after the first class. And we had the ability to do that because we had the preparation there. We were able to change how we were going to present some of the material, not significantly, but it was enough of a change that made the class flow better and I think was beneficial.

Mahler: Yeah, and that was a game time decision, where we saw the students that we had in the class and we had to rethink a few things because we wanted to make sure that they got just as much out of this as what we did. So by rethinking our methods a little bit, I think we succeeded in making the class effective for the entire group.

Chalmers: We really haven't had a long discussion with Tom as far as what he thought about what we've accomplished. I think he thinks we've done a good job. But I'm very interested in seeing what he has to say about our discussions in class.

Mahler: We've had some impromptu meetings after a few of the classes where we were sitting there saying, wow, we weren't expecting that one, and Tom would say, "yeah, now you understand how it is

to be an instructor." Those types of situations, and I agree with you that we'll probably need to sit down with Tom and get his reactions on this entire project. Being our advisor and being very helpful for the direction that it took and for some of the major decisions that we had to make. It'll be nice to see from his viewpoint how it all fell into place once we are done. I almost wished we would have asked him to fill our one of those course evaluation forms as well.

Chalmers: We might have gotten lucky and he might have done that.

Mahler: We'll see.

Chalmers: We'll see, but we can't see those until we have the grades finalized.

Mahler: Overall, this project, we started it in February or so of

Chalmers: It was the end of February when we had that dinner.

Chalmers: 2002.

Mahler: 2001, 2001, wait, no 2002, yeah, that would be two and a half years. Um, a year and a half later we are sitting here and all we have left to do is put our pages together and hand it in. How do we feel?

Chalmers: You want to start?

Mahler: Go ahead.

Chalmers: Year and a half of hard work and I would have never expected to be sitting right here. When we started we had a completely different mindset on how we wanted to take the class -- it wasn't even a class. Yea. We had a completely different idea, the project was at best a skeleton of what we had thought and I'm disappointed in one thing: we never answered the fundamental question of the class -- What does a Chinese character keyboard look like?

Mahler: The question that I asked eighteen months ago.

Chalmers: ... that started this entire conversation was what does a Chinese character keyboard look like...

Mahler: I meant to buy one of those, but I at least looked at pictures, and we got to understand how a Chinese character keyboard is used. But you're right, we didn't accomplish that, but I think.

Chalmers: But on the whole, the Chinese character keyboard aside, we answered our questions. We laid a groundwork, really, for future research in this topic I think. There's an entire new department of

study in the College of Business that wasn't there when we started this project and little did we know that at the same time that was happening we were designing the project and our thesis advisor that we asked was eager to do it because he was going to be chair of that department. And I hope they take our project and run with it in their curriculum in some manner. Maybe not as a full course, but as a unit in a management of information technology class or at least the fundamentals of what we were trying to provide because really what we've done speaks volumes to what the College of Business, what the Honors College, and what the University itself can provide to the entire academic community. Because, as students we were able to educate students. Its a dream come true. We know what its like to be across the desk, we realized how hard it is as students to be an educator and to provide a body of knowledge to another person in a formal way. I'm privileged to say that I've done that. I feel honored that our project was accepted as an Honors project that we could take and move forward with and a year and a half later our predictions of us ripping each other's hair out and having fights didn't come true. Its been a complete honor working with you Josh.

Mahler: The same can be said about yourself, we, our arguments never scaled to more than just that, they were arguments that helped us discuss some of the things that we needed to include in our class, and thinking back to a year and a half ago when we were coming up with the preliminary ideas of what this whole thing, how it was going to take form, its just amazing to look at all the defining moments in the project where decisions were made on what direction it would take and how it would be constructed and what would it encompass, etc...We talked with many different people to get their opinions and viewpoints on what they thought we might do, or what they thought should be in it, and it was, I don't even know if amazing is the right word to describe it, but I'm very proud of what we have accomplished. Even though we don't have it compiled into one thing that we can give off to the Honors College to fill Dean Ruebel's bowl. But, I know what we've done and that fills any bowls that I have constructed. So overall as a project, we succeeded, and we succeeded greatly. And I think we accomplished our tasks, even though those tasks were redefined throughout constructing this project. I'm still very happy, one for it to be over, because it took a lot of work. But, two, I'm happy of how it was completed. And I think that if we do sit down with Tom and discuss that with him, he'll agree with us. Also, if we sit down with Dean Ruebel, which he was able to attend our last class where the students were making their presentations, hopefully he was

able to realize what the students had picked up out of our class based on what they presented and what they were able to talk about in such a comfortable fashion. So, we've got a little bit of work ahead of us to get everything compiled, but we are there and I'm very happy what we've done.

Chalmers: Before we finish this conversation, I want to go ahead give some thanks to those people that helped this project along. First off, definitely Tom, without his help this wouldn't have gotten off the ground.

Mahler: We needed somebody with a little bit of experience with teaching, as well as some real world experience to say, guys, this is what you should talk about type of thing.

Chalmers: Dean Ruebel, for his insights, definitely his perspective, and allowing our project to mature in the time that it matured.

Mahler: And more of what should a thesis project consist of, because all we knew was that we needed to do a honors thesis project. So he helped us shaped this as an Honors College caliber thesis project.

Chalmers: Mr. Phil Repp, Dean Scott Olson, Dean Lynne Richardson, Mrs. Kathleen Keil in Computer Science, I personally want to thank all of my instructors from kindergarten through ... I now see what it means to be on the other side of the table. And finally you. You took me off my high horse and made this project feasible.

Mahler: At times working in tandem with somebody so closely for such a long period of time, its difficult to do core things of a project that we needed to do like make decisions on the direction its going to take, and we were able to comfortably argue our own opinions and coming from a relationship where we shared an equal amount of respect we were able to work efficiently as co-authors on this project, and I agree without your help, I know that I could not by myself, create a project to this magnitude. And I can confidently probably say the same thing about your abilities to create a project without working as a team with somebody else. As far as who else we need to recognize, I agree with you in saying that all the classes we have taken from kindergarten on up have their own place in what I was able to discuss and what I was able to, I guess expound upon within the class because it took a nice diverse education in many different topics, because our topics at times went all over the place. We hit social issues, we hit some history, we hit some very technical issues, we went in a lot of different directions, and without some of the instructors that we've had in the Computer Science department, or in the Management

department, or in the Honors College, or in the English department, you can go all over campus, we would not have the perspectives that we hold now, and we would not be able to have constructed the class and hold the discussions that we were able to hold.

Chalmers: I think also going along with that, I also want to thank my family. Because without their perspectives, I wouldn't have anything to base reality on.

Mahler: Yup, you can go back to what you perceive is...no never mind, I won't go back to that, I won't open that topic up. But, I agree with you, you have to have other people in your life, family and friends to support you when you have a large amount of effort focused on one item. So, family and friends for myself also played a very significant role in the development of this. So I would like to thank them also. With that, I think we can put a close on tape to what this project has consisted of. Would you agree?

Chalmers: I think so.

Mahler: Thank you.

Chalmers: Thank you.

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Appendix A: Case Study Assignment

The following pages contain the case study assignment written by each student of the class. Within the case studies, the authors' comments and the grade given for each paper is included. In order to keep the students' anonymity, their names have been omitted.